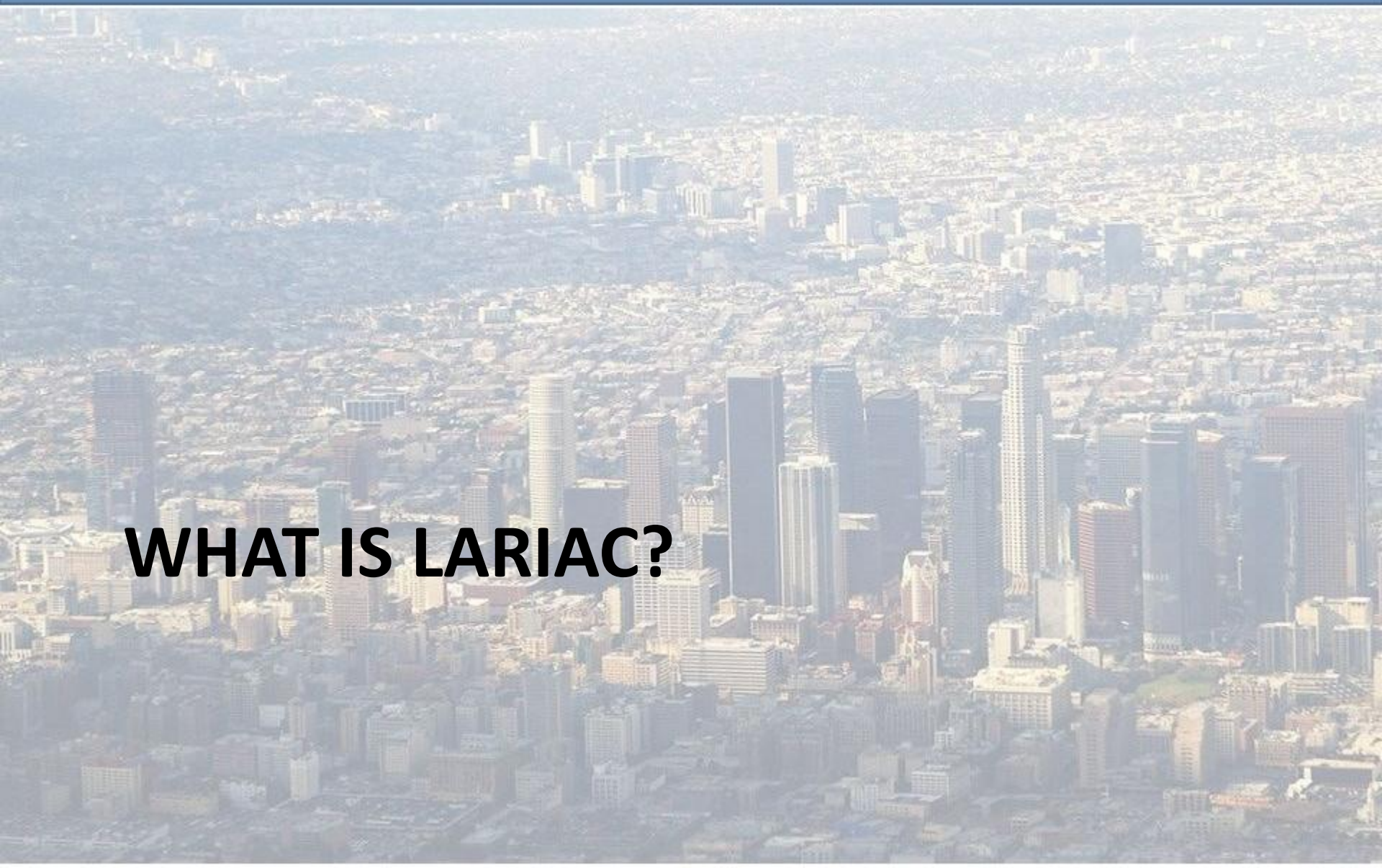
LAR-IAC4 Kickoff Meeting

September 12, 2013

LOS ANGELES REGION
LAR|IAC
imagery acquisition consortium

Agenda

- Introduction to LAR-IAC – LA County
  - What is LAR-IAC?
  - LAR-IAC4
- LAR-IAC Benefits
  - Property and Planning
  - Economic Development
  - Public Safety
  - Public Works
  - Emergency Response
  - Policy Development
  - Citizen Engagement
  - Research
- Lunch!



WHAT IS LARIAC?

What is LAR-IAC?

- Los Angeles Regional Imagery Acquisition Consortium (LAR-IAC)

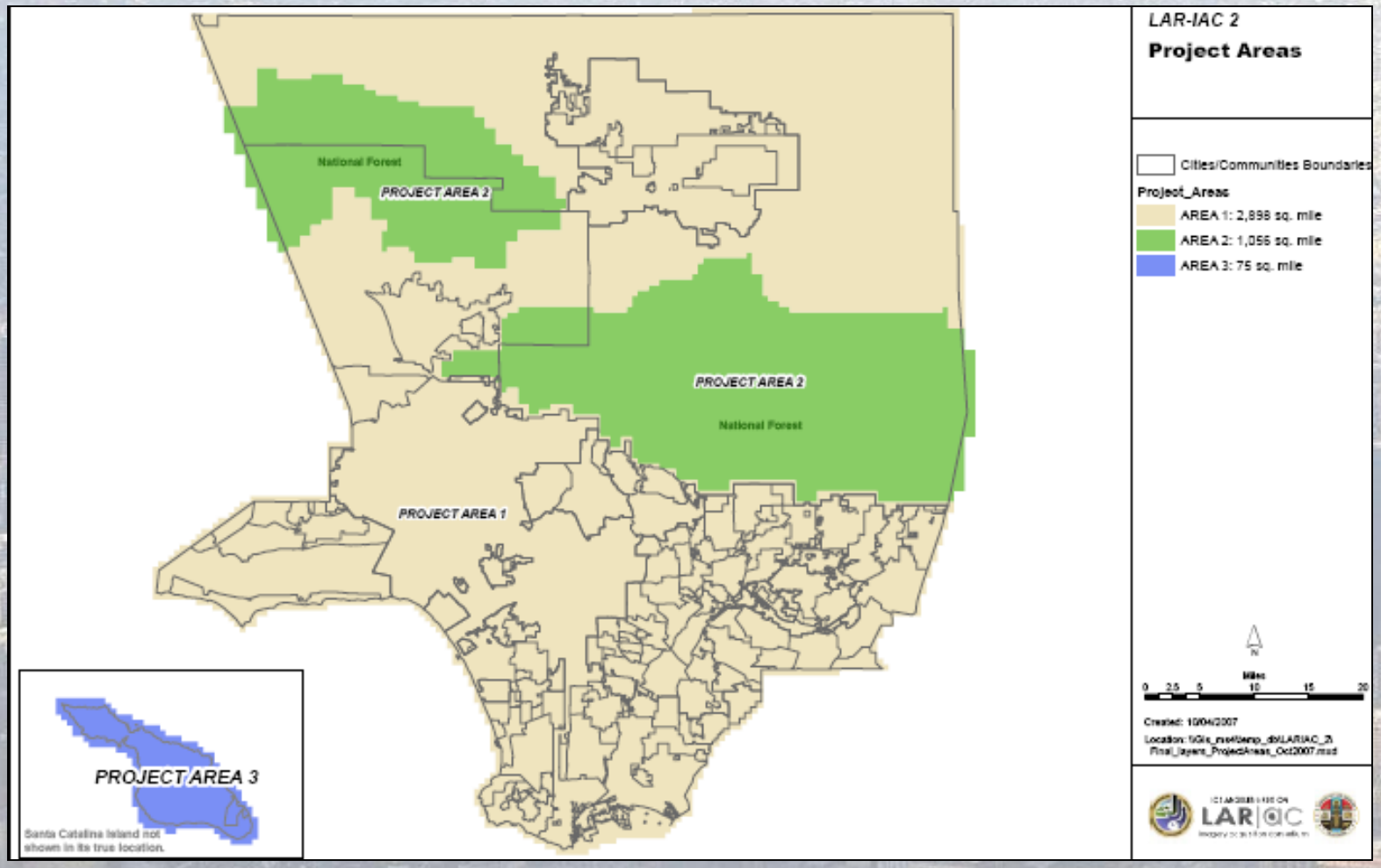
  "LAR-IAC is multi-jurisdictional purchasing arrangement that enables participating local governments and agencies to benefit from combined economies of scale to efficiently and cost-effectively acquire high definition aerial data."

- Established in 2003 by LA County Regional Planning and Chief Information Office.

Geographic Scope

- Los Angeles County
  - 4,083 sq. miles plus small buffer area
- Split into regions
  - Area #1 (Urban)
    - Project area covers approximately 3,000 sq. miles
  - Area #2 (National Forest)
    - Project area covers approximately 1,050 sq. miles

LARIAC Geographic Scope



Why LAR-IAC?

- Share costs
  - As more participants join, the cost for each participant falls.
- Lower costs
  - Economies of scale lower acquisition costs per square mile.
  - More products, better accuracy, larger area

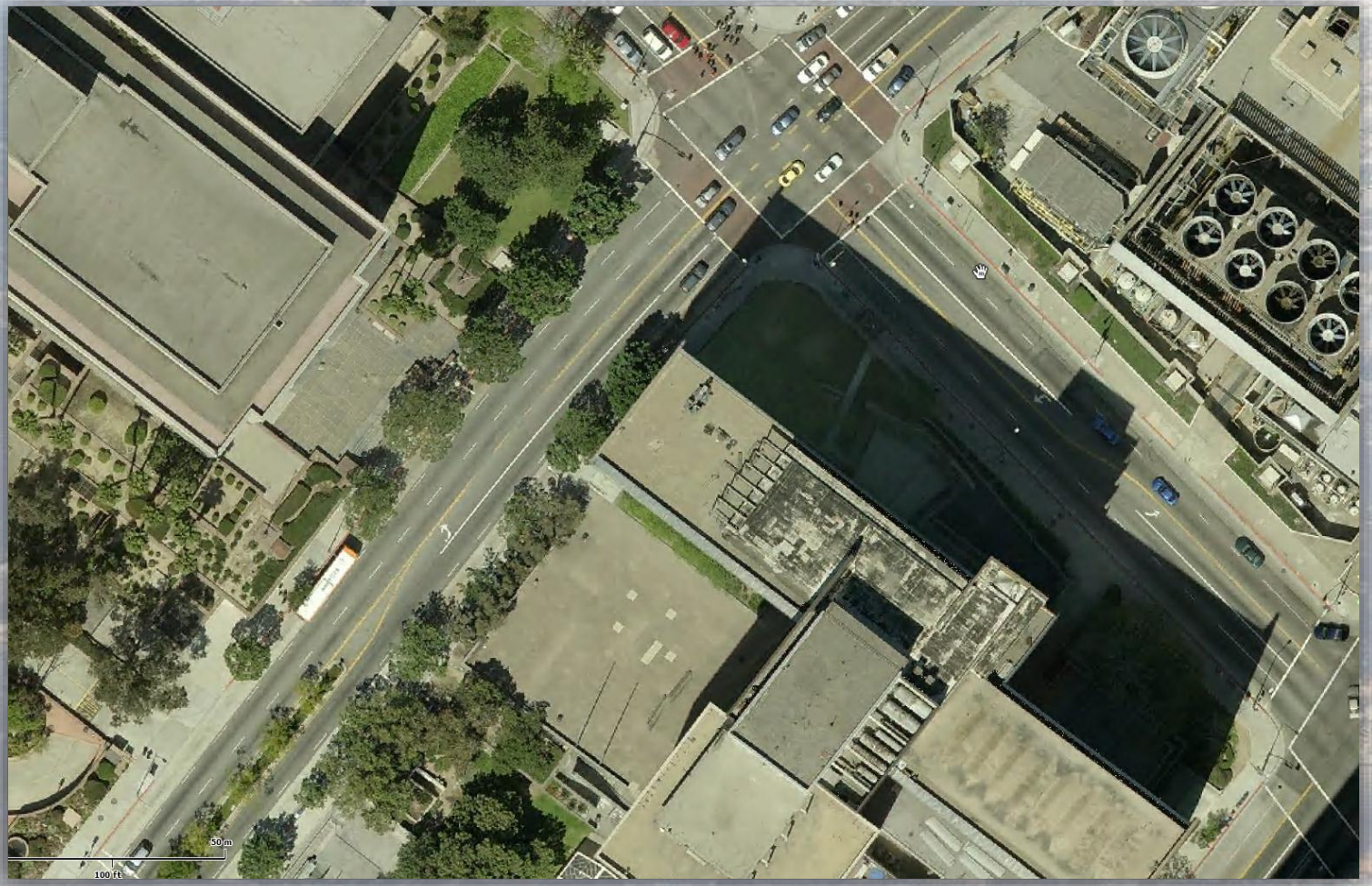
LAR-IAC is data

- LAR-IAC provides geographic data that forms the foundation of geo-spatial decision making and analysis.
- All Digital Aerial data
  - Orthogonal imagery
  - Oblique imagery
  - Building Outlines
  - Digital Terrain Data (Elevation)
- LAR-IAC now includes access methods too.
  - Less work to benefit.

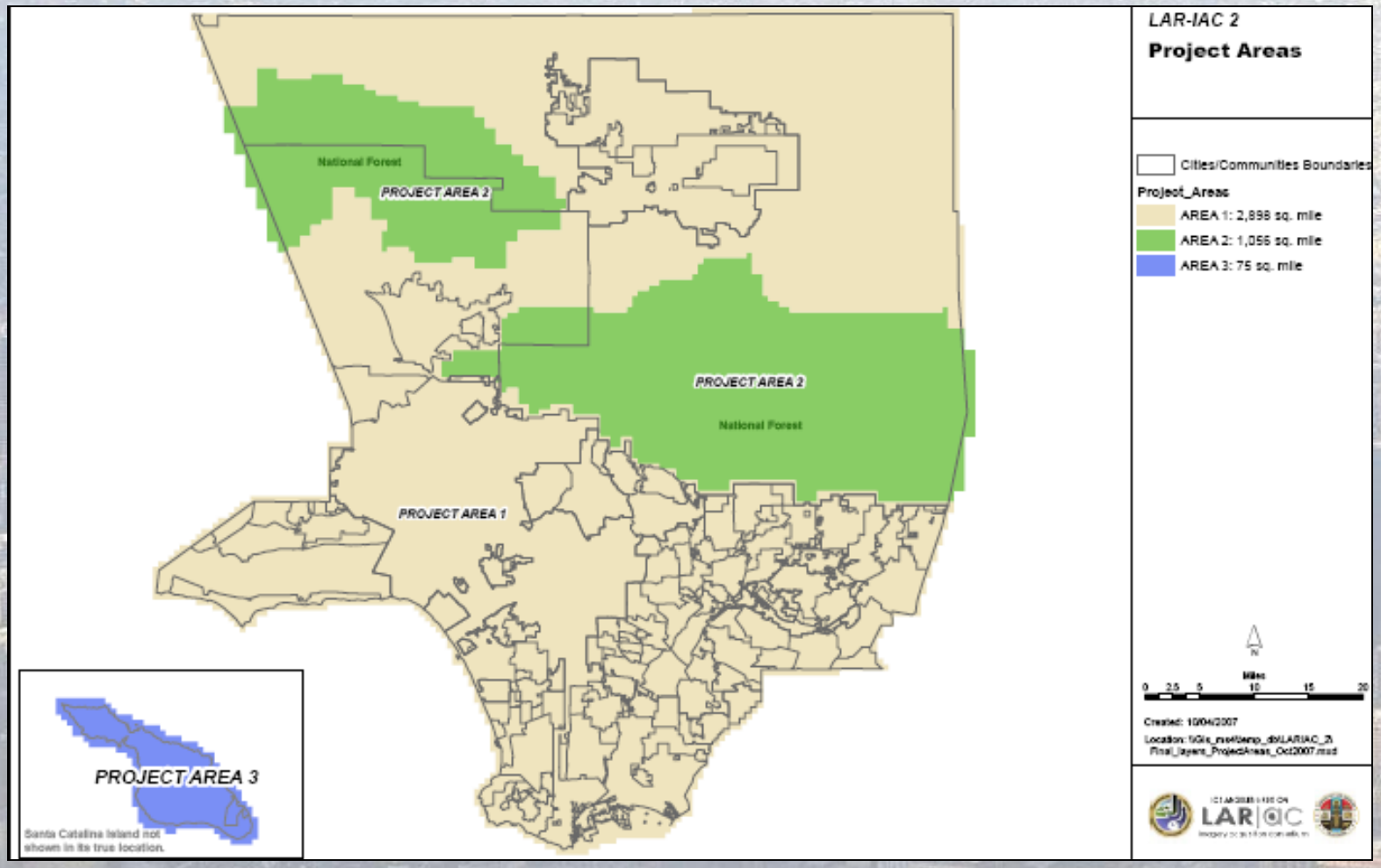
LAR-IAC PRODUCTS

Orthogonal Imagery

- Also known as “Satellite View”



Project Areas - Ortho Imagery

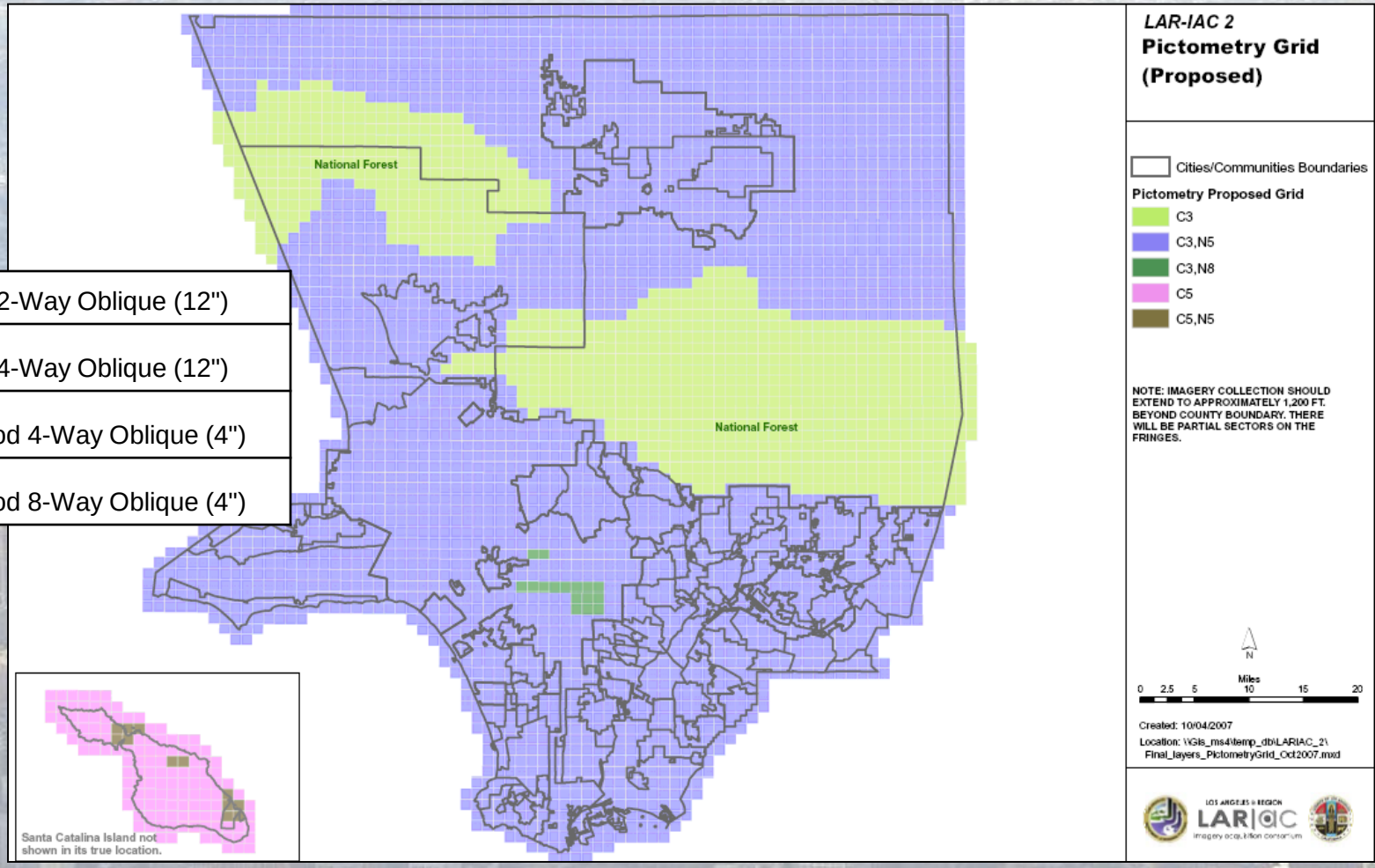


Oblique Imagery

- Also known as “birds eye”

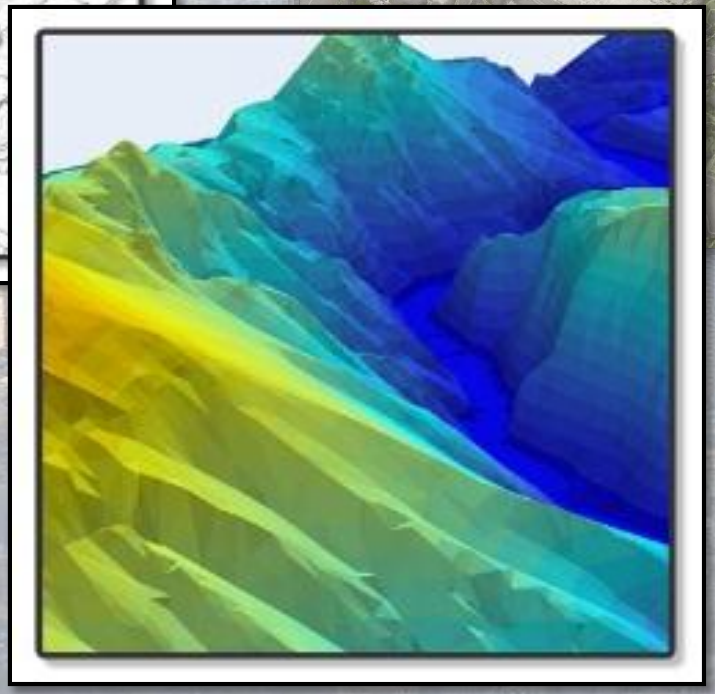
Project Areas – Oblique Imagery

4276	Community 2-Way Oblique (12")
139	Community 4-Way Oblique (12")
3309	Neighborhood 4-Way Oblique (4")
16	Neighborhood 8-Way Oblique (4")

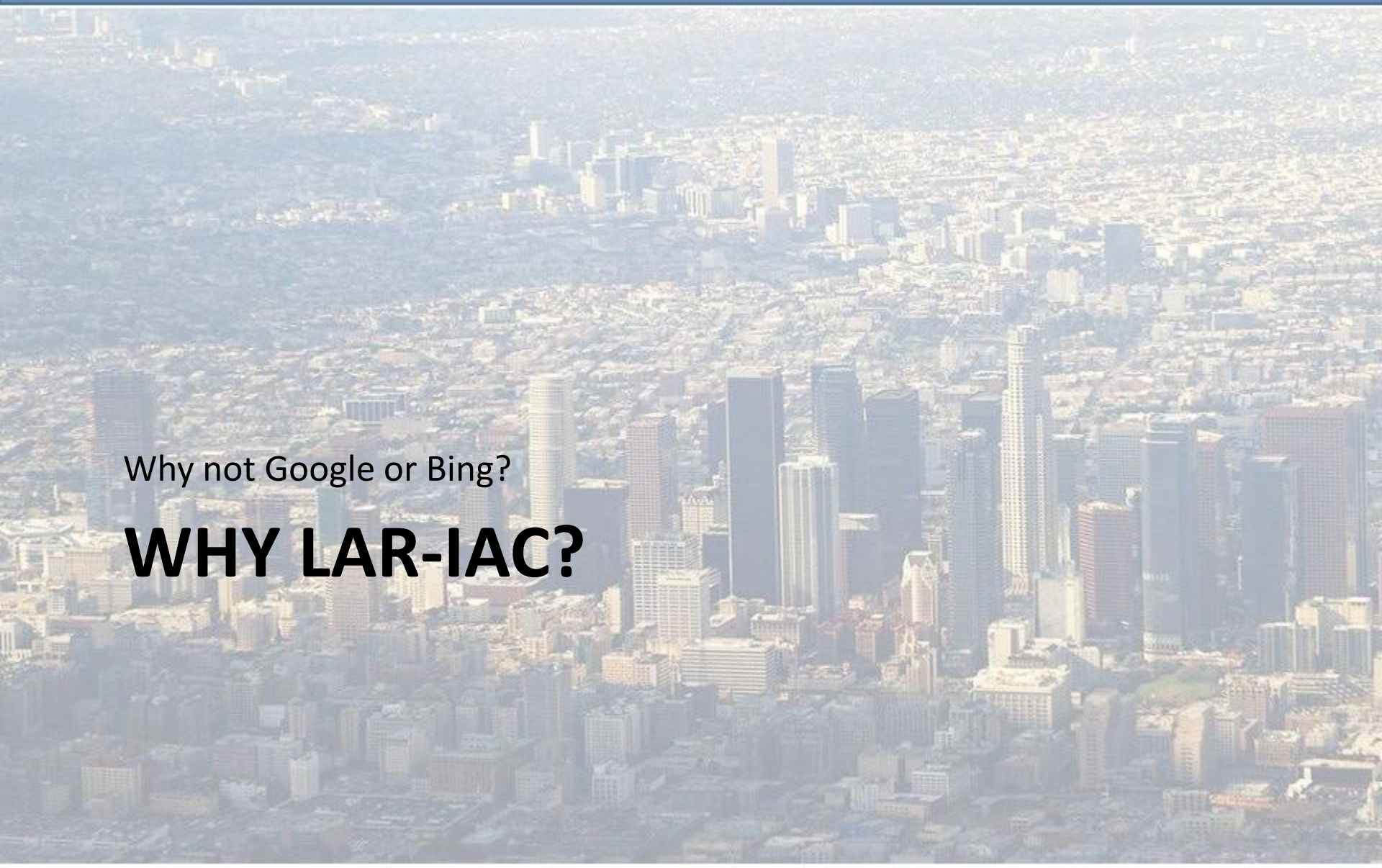


Elevation Data

- Contours, buildings, surfaces



Building Outlines



Why not Google or Bing?

WHY LAR-IAC?

Why LAR-IAC?

- Highest Resolution
- Unparalleled accuracy
- More data
- More tools
- Data Control
- Lower cost
- Shared base information

Highest Resolution

- 4-inch pixel size for urban areas
  - More detail than off the shelf 1 foot data
- See more details
  - Less trips to the field
  - Better management of assets
  - Code enforcement
  - Better support for emergency responders
  - Better support for planning and development
  - Enhanced communication with the public.

Example

Unparalleled Accuracy

- LAR-IAC ensures accuracy
  - American Society for Photogrammetry and Remote Sensing (ASPRS)
    - Class 1 = +/- 1 foot accuracy (Urban Areas)
    - Class 2 = +/- 2 foot accuracy (National Forest)
  - Separate contract with Dewberry to provide Quality Control
- This isn't a pretty picture.
  - Pre-engineering grade.
  - You can be sure of your measurements.
  - Reduce your project & development costs.
- This isn't a picture from the internet.
  - Sorry Google …

Example

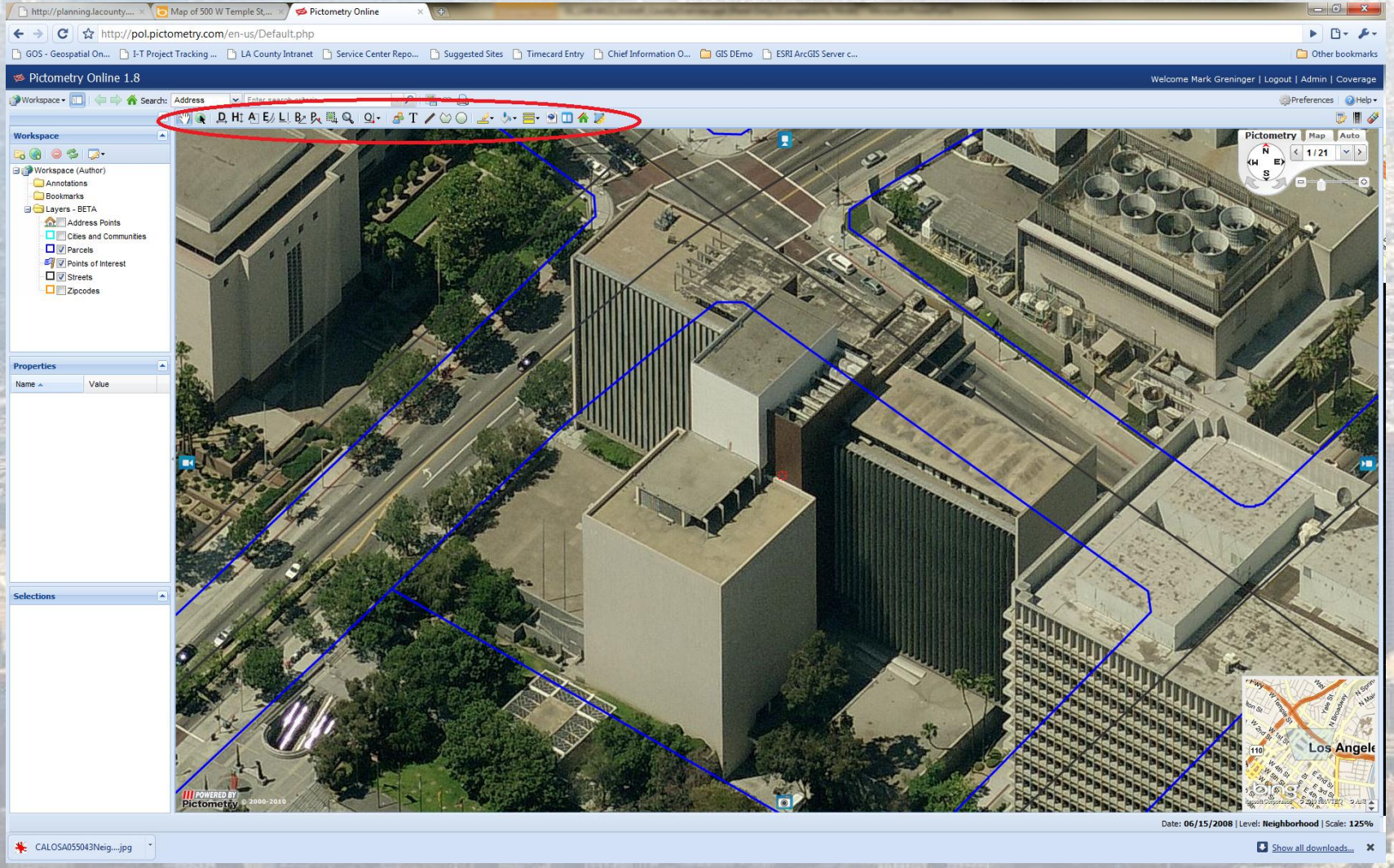
More Data

- LAR-IAC contains the widest range of digital aerial data.
- It forms the basis for most GIS geographic systems.
  - Orthogonal imagery
  - Oblique imagery
  - Elevation data
  - Building Outlines
- All in formats you can actually use (not pictures).

More Tools

- Orthophotography
  - Image analysis, automated change detection.
- Oblique Imagery
  - Measure heights, distances, pitch, etc.
  - GIS Overlays
- Elevation
  - Flood models, slopes, water flow, etc.
- Building Outlines
  - Area, height, density, change.

Pictometry Online



Control of Data

- You have the data and control it.
  - Unlimited deployment (no per-seat license)
    - Use in Police and Fire vehicles for emergency response.
    - Put in dispatch centers.
    - Provide to planning department
    - Use in Public Works
    - Provide to contractor(s)
  - License for internet viewing.
    - Add to your websites.

Note – the data is under license – it is NOT public domain – this was done deliberately.

Lower Cost

- Costs are shared among all participants.
  - The more participants, the lower the cost.
- Only one flight to acquire data.
- One set of contracts.
- Cost savings for LAR-IAC1, 2, and 3 estimated at over $14 million.

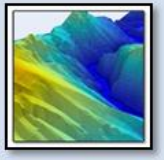
Shared Basemap

- A standard map for the County
- You are on the same map as your neighbor.
  - Mutual aid benefits
  - Regional development benefits
- All data that is created meets accuracy standards (only do it once).
- Long-term benefits through data sharing.
- A starting point for further integration.
  - Addresses, parcels, etc.

LAR-IAC 4

What's different and new

LAR-IAC4 Product Matrix

Data Types	LARIAC1 2006	LARIAC2 2008	LARIAC3 2011	LARIAC4 2014
Orthogonal Imagery (4-inch) 	X (including Infrared)	X	X	X (including Infrared and 1-foot imagery from 2012 and 2013)
Oblique Imagery 	X	X	X	X
Building Outlines 		X		X
Elevation Data  	X			X
Derived Data • Tree Canopy • Solar Insolation • NDVI (Permeability) • Slope • Hillshade • Height	X			X

Data Delivery Formats

Delivery Product	Format 1	Format 2	Format 3
Orthophoto (color) (4” and 1’)	GeoTIFF & JPG2000	SDE Export/ File Geodatabase	ECW mosaics
Pictometry oblique imagery (4” and 1’)	Medium Compressed JPG format	Online Access	
Building Ootlines	ArcGIS shapefile	ArcGIS Shapefile of new construction, changes, and demolition	
Digital Terrain Model	.las format files (RAW)	Digital Elevation and Surface model (rasters)	Other related formats

Changes from LAR-IAC1

- More products, more accuracy, faster, easier
  - 2012 and 2013 imagery included (1 foot)
  - 6 month turnaround
  - Online access
  - 2 foot contours → 1 foot contours
  - Addition of building outlines
- Less expensive
  - $5.8 million → $4.2 million (est.)
  - ~30% price reduction compared to LAR-IAC1

LAR-IAC4 adding Services

- Moving from data to direct access
  - Orthophotography
    - Map services hosted by LA County
  - Oblique Imagery
    - Online Access
    - iPhone application
    - Embeddable widgets for your websites
  - Building Outlines
    - Change detection (find unpermitted additions)
  - Digital Terrain Data
    - Derived products included (NDVI, Solar model, etc).

Simplified Schedule

- September – negotiate contract (in progress)
- October 2013 – establish bridge funding
- November - complete contracts (all firms)
- December - start flying
- March 2014 - flying completed…start processing
- April – July 2014 - QC underway
- September 2014 delivery underway

LAR-IAC ORGANIZATION

LAR-IAC Structure

- LA County
  - Executes and manages contracts.
  - Assumes contract risk & provides bridge funding
  - Organizes meetings and provides support.
  - The single point of contact for LAR-IAC.
- Participants (including LA County)
  - Provide funding to support the project
  - Provide members for the Technical Advisory Group (TAG) to review details.
- Project Vendors
  - Provide expertise and capabilities to get the job done.

LAR-IAC Team Structure

LA County

Mark Greninger, CIO
Project Director

Nick Franchino, DRP
Outreach Manager

Project Vendors

In negotiations

Technical Advisory Group
Composed of LAR-IAC Participants

Participants

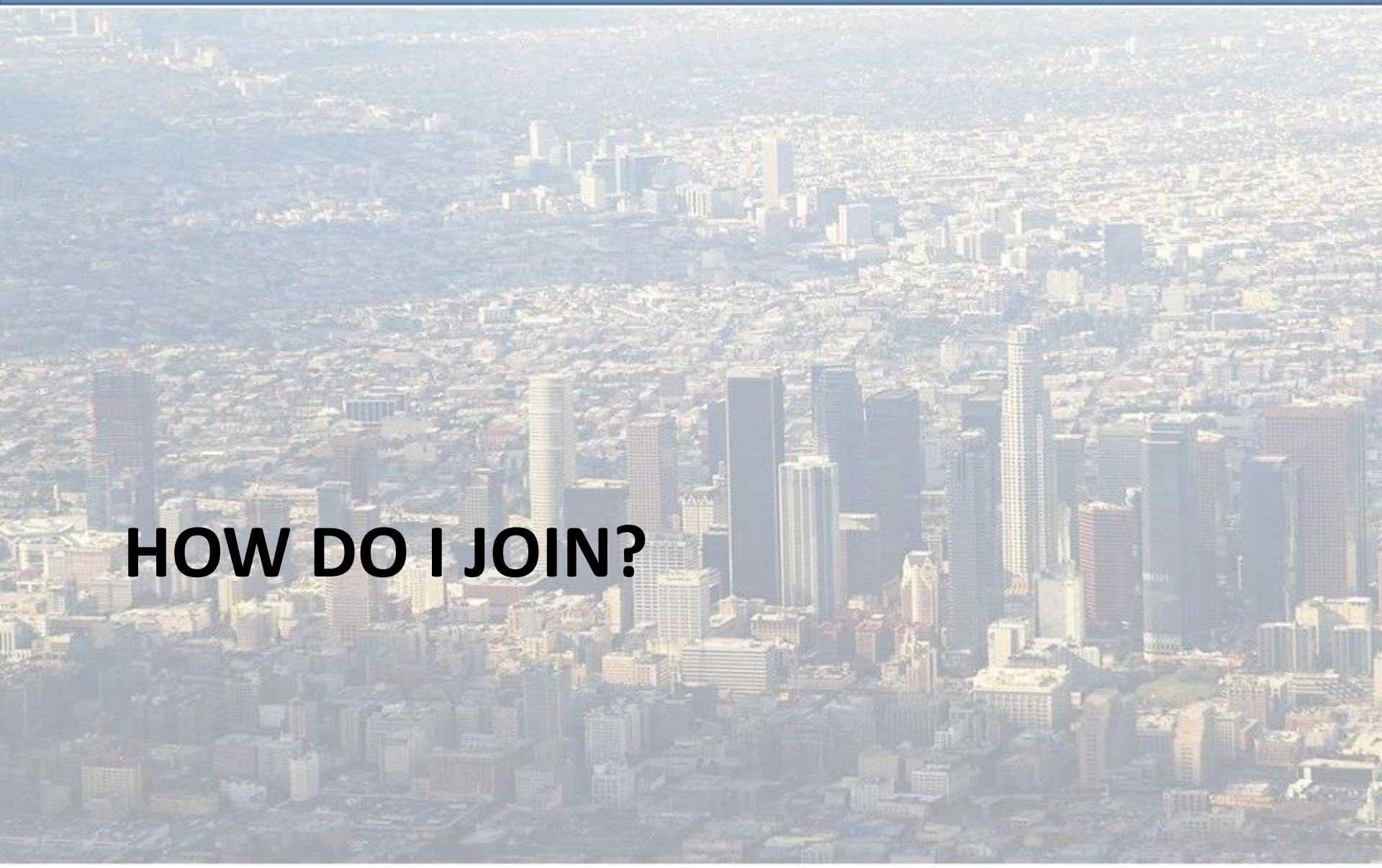
Cities
Departments
Agencies

39 Cities

#	Cities	LAR-IAC 1	LAR-IAC 2	LAR-IAC 3
1	City of Agoura Hills	X		X
2	City of Azusa	X	X	
3	City of Bellflower			X
4	City of Beverly Hills	X	X	X
5	City of Burbank	X	X	X
6	City of Carson	X	X	X
7	City of Cerritos	X	X	
8	City of Claremont		X	X
9	City of Covina	X	X	
10	City of Culver City	X	X	X
11	City of Diamond Bar	X	X	
12	City of Downey	X		X
13	City of El Segundo	X	X	X
14	City of Glendale	X	X	X
15	City of Hermosa Beach	X	X	X
16	City of Industry	X	X	X
17	City of Inglewood	X	X	X
18	City of Irwindale	X	X	
19	City of La Canada Flintridge	X	X	X
20	City of La Habra Heights	X	X	
21	City of Lakewood	X	X	X
22	City of Lancaster	X		
23	City of Long Beach	X		X
24	City of Los Angeles	X	X	X
25	City of Manhattan Beach	X	X	X
26	City of Monrovia	X		
27	City of Monterey Park	X	X	
28	City of Palmdale	X		
29	City of Pasadena	X	X	X
30	City of Redondo Beach	X	X	
31	City of San Dimas			X
32	City of Santa Clarita	X	X	X
33	City of Santa Fe Springs	X		X
34	City of Santa Monica	X	X	X
35	City of South El Monte	X	X	
36	City of South Pasadena			X
37	City of Torrance	X	X	X
38	City of Westlake Village	X		
39	City of Whittier	X	X	X

34 Departments and Agencies

#	Agencies	LAR-IAC 1	LAR-IAC 2	LAR-IAC 3
	County Departments			
40	Agricultural Commission/Weights and Measures	X	X	X
41	Chief Executive Office/Office of Emergency Management	X	X	X
42	Department of Animal Care & Control		X	X
43	Department of Beaches & Harbors	X	X	X
44	Department of Children & Family Services		X	X
45	Department of Community & Senior Services		X	X
46	Department of Health Services	X	X	X
47	Department of Mental Health		X	X
48	Department of Parks & Recreation	X	X	X
49	Department of Public Health	X	X	X
50	Department of Public Social Services		X	X
51	Department of Public Works	X	X	X
52	Department of Regional Planning	X	X	X
53	Fire Department		X	
54	Internal Services Department	X	X	X
55	Office of the Assessor	X	X	X
56	Probation Department		X	X
57	Public Library		X	X
58	Registrar-Recorder/County Clerk	X	X	X
59	Sheriff's Department		X	X
	Local Agencies			
60	Alameda Corridor Transportation Authority		X	
61	Caltrans	X		
62	LA County Sanitation Districts	X	X	X
63	LARGIN (LA Region Gang Information Network)	X	X	
64	Port of Los Angeles	X	X	X
65	Santa Catalina Island Conservancy	X	X	X
66	US Geological Survey		X	X
67	Amigos de Los Rios			X
68	US National Guard			X
69	Los Angeles Air Force Base			X
	Educational Institutions			
70	Palos Verdes on the NET			X
71	California State University Long Beach	X	X	X
72	California State University Los Angeles		X	
73	University of Southern California (USC)	X	X	X
74	University of California at Los Angeles (UCLA)	X	X	X



HOW DO I JOIN?

How do I Join?

- Letter of Intent
  - Informs the County that your agency intends to budget for LAR-IAC participation.
  - Non-binding

SAMPLE LETTER OF INTENT

<Current Date>

Mr. Richard Sanchez, Chief Information Officer
County of Los Angeles
World Trade Center
350 S. Figueroa St., Suite 188
Los Angeles, CA 90071

Dear Mr. Sanchez:

It is our intent to participate in the 2013-14 Los Angeles Region Imagery Acquisition Consortium (LAR-IAC4). LAR-IAC4 will acquire 4-inch color orthogonal, 4-inch oblique aerial photography, building representations (outlines), and digital terrain data. We understand the estimated cost will not exceed **$XXXXXXX**. Recognizing that our final commitment is contingent upon approval, it is understood that this approval must be obtained prior to confirming our participation in this project.

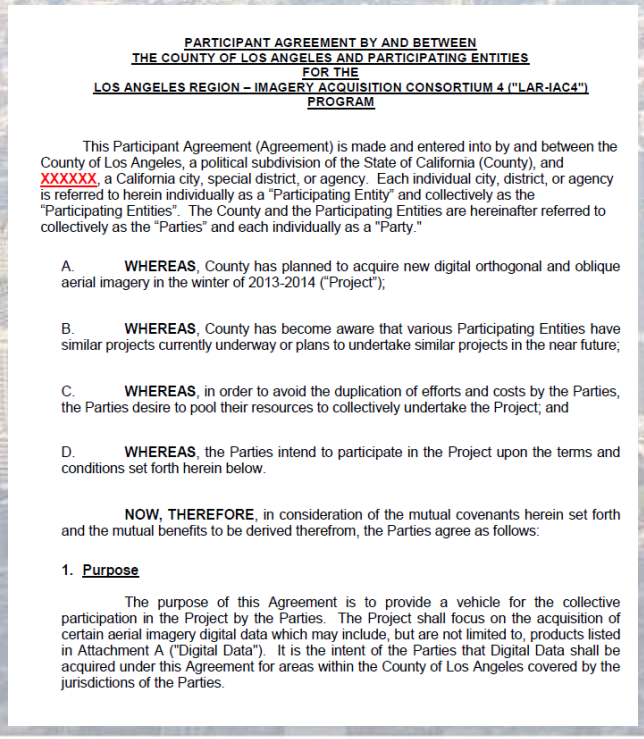
If you have questions, please contact <***Name and Title of Primary Contact***> *at* <***Telephone, Fax and E-mail Address***>.

Sincerely,

_____ _____
Signature Print Name

_____ _____
Title Date

- Participant Agreement
  - Commits your agency to pay your share of LAR-IAC and “join the team”
  - Can make two payments over two fiscal years (one this year, one next)



PARTICIPANT AGREEMENT BY AND BETWEEN
THE COUNTY OF LOS ANGELES AND PARTICIPATING ENTITIES
FOR THE
LOS ANGELES REGION – IMAGERY ACQUISITION CONSORTIUM 4 ("LAR-IAC4")
PROGRAM

This Participant Agreement (Agreement) is made and entered into by and between the County of Los Angeles, a political subdivision of the State of California (County), and XXXXXX, a California city, special district, or agency. Each individual city, district, or agency is referred to herein individually as a “Participating Entity” and collectively as the “Participating Entities”. The County and the Participating Entities are hereinafter referred to collectively as the “Parties” and each individually as a "Party."

A. **WHEREAS**, County has planned to acquire new digital orthogonal and oblique aerial imagery in the winter of 2013-2014 (“Project”);

B. **WHEREAS**, County has become aware that various Participating Entities have similar projects currently underway or plans to undertake similar projects in the near future;

C. **WHEREAS**, in order to avoid the duplication of efforts and costs by the Parties, the Parties desire to pool their resources to collectively undertake the Project; and

D. **WHEREAS**, the Parties intend to participate in the Project upon the terms and conditions set forth herein below.

NOW, THEREFORE, in consideration of the mutual covenants herein set forth and the mutual benefits to be derived therefrom, the Parties agree as follows:

1. **Purpose**

The purpose of this Agreement is to provide a vehicle for the collective participation in the Project by the Parties. The Project shall focus on the acquisition of certain aerial imagery digital data which may include, but are not limited to, products listed in Attachment A ("Digital Data"). It is the intent of the Parties that Digital Data shall be acquired under this Agreement for areas within the County of Los Angeles covered by the jurisdictions of the Parties.

Participant Agreement

- Three important areas:
  - Pages 1-5 are the agreement
    - Agreement between agency and County about costs.
    - Counter-signatures on Page 5.
  - Attachment A lists the data products
  - Attachment A.1 allows you to contract for additional services
    - County allows “Optional Items” for participants.
    - 3D buildings, curb lines, etc.
    - A sub-contract between you and the vendor
  - Attachment B is between you and your contractor.
    - It protects you in case they use the information improperly.

Distribution and Sub-licensing

- Distribution
  - 4-inch orthos can be displayed on the Internet
  - Oblique imagery can be shown on the Internet
    - Note: measurement tools for internal use only
  - 1 foot orthos can be distributed to the Public
- Licensing
  - Participant Agreement
  - Sub-licensing
    - One simplified form to cover all data products for sub-contractors

Staying Up-To-Date With Project

- Meetings
  - Briefing Meetings (every other month)
  - Technical Advisory Group (as necessary)
  - User Group Meetings (quarterly)
- Documents
  - Participant Agreement
  - Status Reports

Contact Information

- **Project Director**

  Mark Greninger, County GIO

  mgreninger@cio.lacounty.gov (213) 253-5624

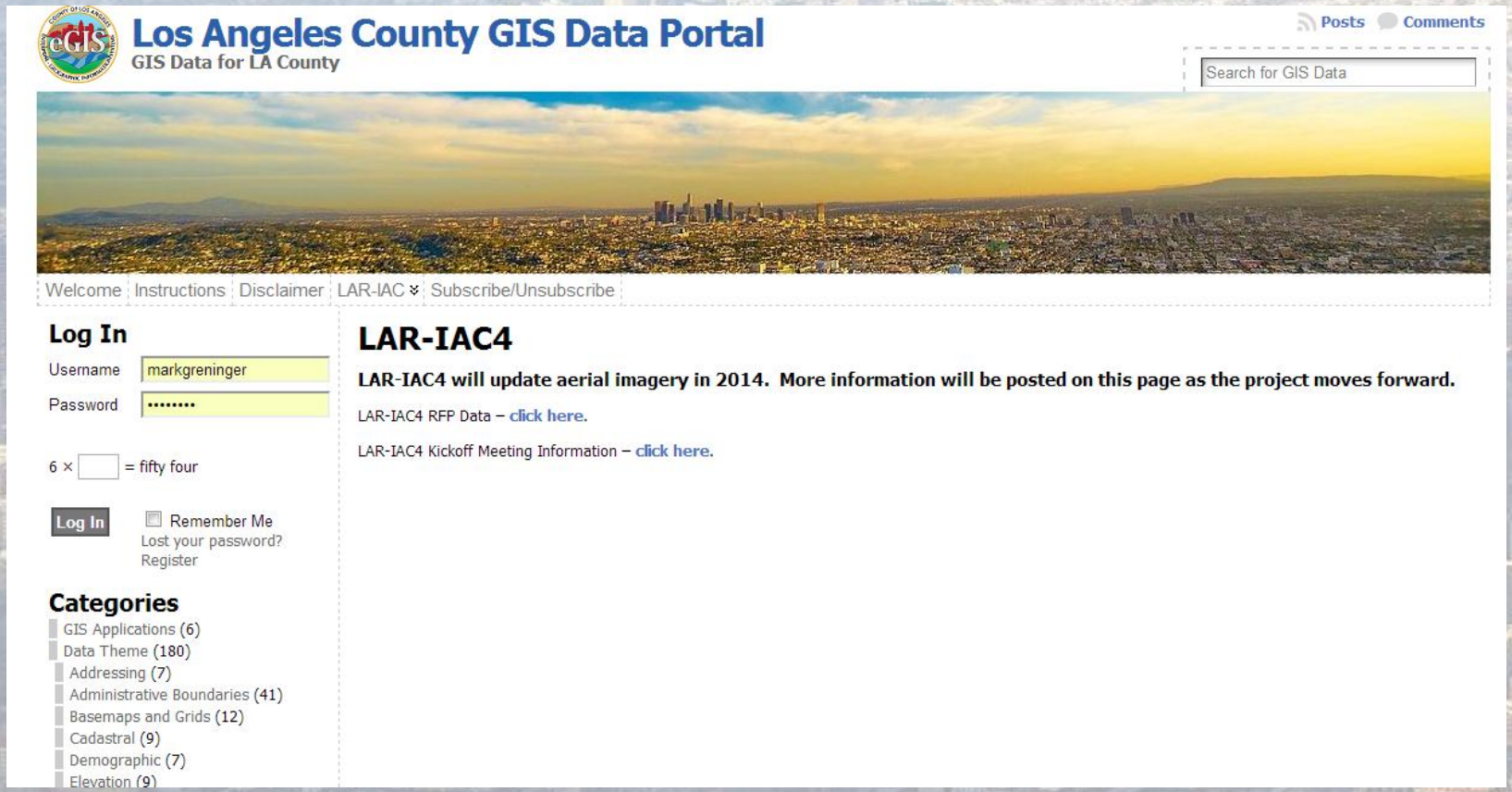
- **Outreach Manager**

  Nick Franchino, GIS Manager, Regional Planning Dept.

  nfranchino@planning.lacounty.gov (213) 893-0881

LAR-IAC Project Web Site

http://egis3.lacounty.gov/dataportal/lariac/lar-iac4/



Test Drive!

To view LARIAC data in action visit the LA County GIS Viewer

http://gis.lacounty.gov/gisviewer

Access to Pictometry Online

Go to: http://pol.pictometry.com

Email Address: test@lariac.gov

Password: 4lariac4test!

Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC4)

Questions/Comments?
(time permitting)

LOS ANGELES REGION
LAR|ac
imagery acquisition consortium

Prepared by:
Los Angeles County

Demonstrations

Data Delivery (2)

- Pictometry ArcGIS Desktop
  - **ArcMap 10.0 version released**.
- Hosted solution(s) for Oblique Imagery
  - **Pictometry Online** for oblique imagery
  - Pictometry Image Navigator for integration into your existing mapping sites.
  - ***Pictometry iPhone application!***